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Gemstones in Achaemenid Culture: A brief Exploration through the Oxus Treasure

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Abstract

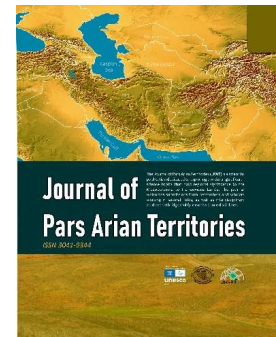
This scholarly investigation delves into the multifaceted significance of gemstones during the Achaemenid epoch (6th to 4th centuries BCE), with a particular focus on the illustrious Oxus Treasure discovered near the Oxus River in Tajikistan. Beyond their aesthetic allure, gemstones within Achaemenid jewelry emerge as conduits of profound symbolism, intricately interwoven with cultural, religious, and societal dimensions. The Oxus Treasure, a collection of meticulously preserved artifacts primarily composed of gold and silver, stands as an archaeological testament to the magnificence and craftsmanship of the Achaemenid Empire. From griffin-headed bracelets to intricately detailed finger rings, each artifact not only showcases artistic brilliance but also encapsulates the intricate values and beliefs that shaped ancient Persian society. This inquiry unravels the cosmopolitan influences that permeated Achaemenid jewelry, blending styles from Egypt, Mesopotamia, Greece, India, and Lydia. The Achaemenid Empire, sprawling across vast territories, served as a cultural crossroads where diverse civilizations converged. The assimilation of artistic styles from these regions into Achaemenid jewelry reflects a cosmopolitan ethos, highlighting the empire's role as a cultural nexus. Egyptian motifs, Mesopotamian craftsmanship techniques, Greek mythological symbols, Indian artistic intricacies, and Lydian design aesthetics collectively contributed to the rich visual tapestry of Achaemenid jewelry. This amalgamation of influences not only attests to the empire's expansive reach but also underscores its capacity to synthesize and adapt external elements, creating a unique and cosmopolitan artistic identity.

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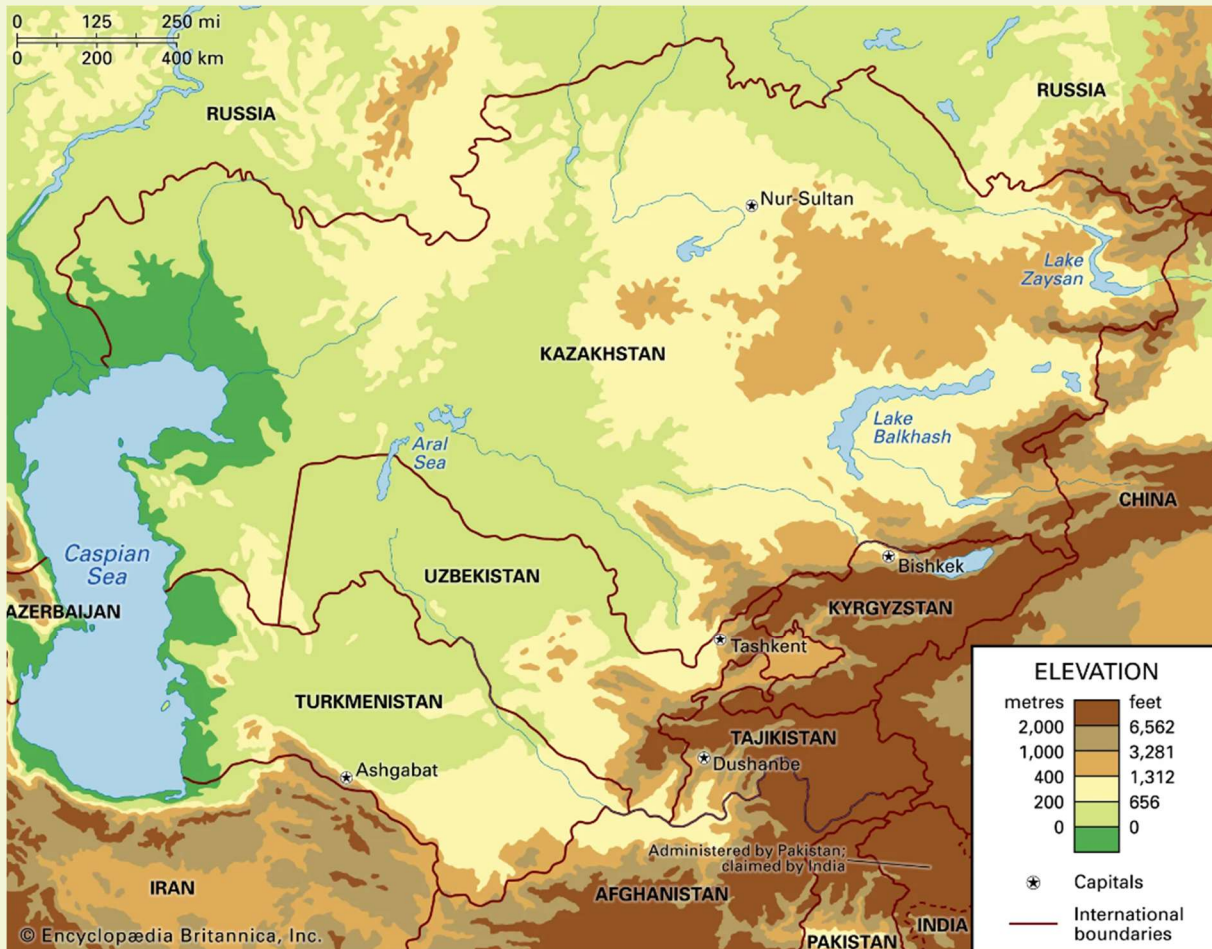
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INTRODUCTION

Immersed within the vast expanse of historical epochs, the Achaemenid period unfurls as a luminous chapter of regal magnificence and cultural opulence. Spanning from the 6th to the 4th centuries BCE, the Achaemenid Empire, guided by visionary leaders like Cyrus the Great and Darius the Great, stood as a paramount force across a sprawling dominion extending from the Aegean Sea to the Indus River. At the heart of this resplendent cultural panorama lies the enchanting allure of gemstones – radiant and sublime jewels intricately woven into the fabric of societal customs and expressions. Beyond their superficial charm, these gemstones played integral roles in shaping the cultural identity of the Achaemenid people. Their significance surpassed mere embellishment, seamlessly intertwining with religious beliefs, social structures, and the very essence of daily life.

Embarking on this scholarly expedition, the endeavor is to unravel the multifaceted importance of gemstones during the Achaemenid era (figure.1). Delving beyond surface aesthetics, the aim is to comprehend how these precious stones transcended their roles as mere adornments, evolving into symbolic conduits of profound meaning. In doing so, the aspiration is to unveil the intricate values and beliefs that permeated the rich tapestry of Achaemenid culture. Joining this academic journey allows for the peeling back of the layers of significance woven into each gemstone, casting a luminous light on the cultural treasures concealed within the folds of time.

The grandeur of Achaemenid gemstones finds expression in myriad forms, each imbued with profound cultural significance. Among these luminous treasures, lapis lazuli reigns supreme, its deep azure hue evoking celestial realms. This prized gemstone adorned regal seals, jewelry, and architectural marvels, notably gracing the Apadana Hall in Persepolis, where it served as a bridge between the earthly and the divine. Carnelian, ablaze with vibrant orange-red hues, embodied vitality and courage. Its presence in jewelry and seals symbolized strength, both physical and spiritual, epitomized in artifacts such as signet rings exuding authority and power. Turquoise, prized for its serene blue-green tones, held dual roles as a protective charm and a conduit to heavenly realms. Its incorporation into royal regalia and ceremonial objects attested to the Achaemenid belief in the spiritual potency of gemstones. Such examples underscore the profound cultural significance of gemstones in Achaemenid society, serving as more than mere ornaments but as vessels of meaning, intricately woven into the fabric of an epoch steeped in grandeur. As the journey delves deeper, the Oxus Treasure emerges as a testament to the opulence and cultural richness encapsulated in Achaemenid gemstones.

MATERIALS AND METHODS

Oxus Treasure: A Glimpse into Achaemenid Jewelry

The Oxus Treasure stands as a captivating testament to the opulence and artistry of the Achaemenid Empire, offering a remarkable glimpse into ancient Persian jewelry. Discovered between 1877 and 1880 near the Oxus River in Tajikistan, the treasure's exact circumstances of discovery remain shrouded in mystery. It is believed to have been unearthed by local villagers, who, recognizing its value, eventually sold it to a Russian officer. Subsequently, the collection found its way into the hands of British archaeologist Aurel Stein, who played a pivotal role in its documentation and preservation.

This collection of approximately 180 well-preserved artifacts crafted from precious metals, dating back to the Achaemenid Empire (c. 550-330 BCE), holds immense significance as a representative ensemble of Achaemenid jewelry. Its diverse range of items, meticulously crafted and adorned with intricate designs, offers valuable insights into the aesthetic and cultural milieu of ancient Persia.

The treasure is believed to have been buried during the 4th century BCE, a period synonymous with the zenith of the Persian Achaemenid Empire. Its potential association with a temple suggests a repository for votive offerings amassed over an extended period, further deepening its historical and cultural significance.

Among its notable artifacts are griffin-headed bracelets, exemplifying Achaemenid court style, and finger rings adorned with engraved flat bezels, reflecting the exquisite craftsmanship of the era. Sculptural elements, including small figurines and model chariots, add to the collection's diversity, while votive plaques bearing motifs such as lion-griffins and sphinxes provide valuable insights into Achaemenid religious practices.

The Oxus Treasure remains a subject of scholarly intrigue and debate, with its association with coins and the exact origins of certain artifacts continuing to fuel academic discourse. Housed primarily in the British Museum, alongside artifacts in other collections, the treasure offers a comprehensive display of Achaemenid artistry, providing profound insights into the artistic, cultural, and religious dimensions of the ancient empire.



Figure 1: Achaemenid bracelet with ducks, Made of gold, inlaid with lapis lazuli, turquoise, onyx, crystal quartz. Mid-6th – 4th century BCE, Persia, Iran. (MIHO museum)

Significance of the Oxus Treasure as a representative collection of Achaemenid jewelry

Achaemenid period jewelry, as a manifestation of artistic expression, serves as a tangible reflection of the intricate cultural mosaic within the ancient Persian empire. This form of adornment was pervasive, worn by individuals of both genders, with the exception of the priestly class, mandated against donning gold ornaments. Beyond mere ornamentation, jewelry assumed a role in religious practices, where votive

offerings found their way into temples and shrines. The design philosophy of Achaemenid jewelry was a dynamic amalgamation of influences derived from the diverse regions the Persians encountered, including Egypt, Mesopotamia, Greece, India, and Lydia. Distinct motifs such as animals, plants, geometric patterns, and human figures were prevalent, symbolizing power, protection, and fertility. Iconic symbols like the griffin, lion, and lotus became synonymous with Achaemenid jewelry, portraying a rich narrative of cultural synthesis.

The construction techniques employed in Achaemenid jewelry showcased a sophisticated repertoire of skills, encompassing casting, hammering, soldering, engraving, chasing, repoussé, granulation, filigree, and gilding. Mainly utilizing gold, silver, and electrum, craftsmen occasionally applied color and gilding to enhance both appearance and intrinsic value. Semi-precious stones, including carnelian, lapis lazuli, turquoise, agate, and amethyst, alongside colored frit, were integral components, contributing variety and contrast to the metalwork.

The Oxus Treasure, an archaeological marvel comprising around 180 gold and silver artifacts accompanied by nearly 200 coins, offers a comprehensive glimpse into the diversity and complexity of Achaemenid jewelry. Unearthed near the Oxus River in Tajikistan during the late 19th century, the treasure encompasses various jewelry types like bracelets, armlets, rings, earrings, necklaces, pendants, plaques, and pins. The collection is a testament to the influence of external art and traditions from regions such as Egypt, Greece, and Lydia, intricately woven with distinctive Persian features.

Beyond being an assemblage of personal adornments, the Oxus Treasure unveils the intricate layers of Achaemenid societal dynamics, revealing potential distinctions between personal jewelry and items intended for votive or ceremonial purposes. It stands as a significant repository of not just artistic brilliance but also cultural, religious, and social dimensions within one of the ancient world's most influential empires. The Oxus Treasure, through its meticulous preservation and diverse artifacts, continues to be a valuable source for scholarly exploration, providing unprecedented insights into the multifaceted aspects of Achaemenid jewelry.



Figure 1. Bracelet (one of a pair) with heads of lions.Susa, Acropolis, Achaemenid pd., ca. 350 BCE. Gold, lapis-lazuli, turquoise, mother-of-pearl.Inv. nos.: Sb 2761, Sb 2762 (Département des Antiquités orientales, Muse du Louvre).

Gemstones Used in Achaemenid Jewelry

Oxus Treasure as an Exemplar

Gemstones played a pivotal role in Achaemenid jewelry, contributing not only to the visual allure of artifacts but also encapsulating profound symbolic meanings. The Oxus Treasure, an eminent collection from the Achaemenid period, serves as an illustrative testament, offering insights into the varied deployment of gemstones during this era.



Figure 2 Map of Central Asia showing the region where the Oxus Treasure is thought to have been discovered. Drawing by Ann Searight (Curtis John 2004)

Symbolism and Cultural Significance

Gemstones transcended their ornamental role, embodying rich symbolic meanings in Achaemenid culture. Notably, lapis lazuli, with its profound blue hue, assumed associations with royalty and divinity.

The deliberate choice of specific gemstones within jewelry communicated nuanced messages of status, religious devotion, or invoked protective qualities.



Figure 3-Pendant in the Form of a Winged Spirit, Achaemenid Persia, 4th century BC. Gold, lapis lazuli, turquoise, carnelian. (MIHO museum)

Variety of Gemstones

The Oxus Treasure unfolds a tapestry of gemstones, encompassing lapis lazuli, carnelian, garnet, agate, and turquoise. Each gemstone, with its distinctive color and properties, contributed to the creation of a vibrant and visually captivating array of jewelry.

Lapis Lazuli: Renowned for its intense blue color, lapis lazuli held a position of high esteem. Featured prominently in the Oxus Treasure, this gemstone, often set in gold, not only introduced a visually striking element but also harmonized with the cultural and symbolic underpinnings of the Achaemenid period.

Carnelian and Agate: Carnelian and agate, boasting warm and varied hues, were prevalent in Achaemenid jewelry. Manifesting in rings, beads, and amulets within the Oxus Treasure, these gemstones not only provided a compelling contrast against gold and silver settings but also attested to the consummate craftsmanship of Achaemenid artisans.

Turquoise: Turquoise, revered for its distinctive blue-green allure and perceived protective attributes, emerged as a favored gemstone in Achaemenid jewelry. Instances within the Oxus Treasure suggest its dual role as both ornamentation and symbol, possibly weaving ornamental and symbolic narratives.



Figure 5-Torque (Pectoral) with a Pendant Depicting a Battle (MIHO museum)

Integration into Filigree and Granulation

Achaemenid artisans seamlessly wove gemstones into the intricate filigree and granulation work of their jewelry. The bracelets, rings, and necklaces within the Oxus Treasure stand as exquisite examples, showcasing meticulous craftsmanship that married metalwork with gemstone inlays, creating depth and detail.

Cultural Influences on Gemstone Use

The sprawling territorial reach and cultural diversity of the Achaemenid Empire intricately influenced gemstone choices and styles. The Oxus Treasure, bearing influences from regions like Egypt, Greece, and Lydia, echoes a cosmopolitan approach to gemstone incorporation in jewelry.

Method of Identification

Scientific analysis played a pivotal role in unraveling the gemological mysteries of the Oxus Treasure. Techniques such as X-ray diffraction, electron microscopy, Raman spectroscopy, energy-dispersive X-ray spectroscopy, and infrared spectroscopy were employed to identify and characterize gemstones. For instance, lapis lazuli's composition was confirmed through X-ray diffraction and electron microscopy,

while Raman spectroscopy and energy-dispersive X-ray spectroscopy aided in the identification and characterization of garnets. The scientific scrutiny of carnelian, agate, and turquoise involved techniques such as X-ray fluorescence and infrared spectroscopy, shedding light on their geological sources and trade networks.



Figure 6- aigrette, gold plaque ornament: representing on the front a recumbent lion-griffin with bent legs, curled tail with a leaf end, wings, straight horns and long pointed ears, embossed and chased with the head completed in the round. There are cavities for inlay on the flank and shoulder. At the back of the plaque are two long prongs for attachment. Series: Oxus Treasure (The British Museum)

In summation, the Oxus Treasure stands as an eloquent testimony to the nuanced interplay between gemstones and Achaemenid jewelry. The curated selection of gemstones, laden with symbolic significance, seamlessly integrated into sophisticated metalwork, unveils the profound artistry and cultural depth embodied in Achaemenid gem-set jewelry. Scientific analysis enhances our understanding of the geological origins, properties, and trade routes associated with these gemstones, contributing to the broader historical narrative of the Achaemenid Empire.

Symbolism in Achaemenid Jewelry: Oxus Treasure Examples

The intricate symbols adorning Achaemenid jewelry, as showcased by the exquisite pieces within the Oxus Treasure, unfold a captivating narrative steeped in cultural, religious, and regal profundity. These symbolic motifs, meticulously categorized into celestial, zoological, botanical, and gemological realms,

create an opulent tableau that transcends mere adornment, offering profound insights into the complex and refined world of the Achaemenid civilization.

Celestial Symbolism

One of the striking features of Achaemenid jewelry is the use of celestial symbolism, which reflects the empire's religious, cosmic, and royal worldview. The Achaemenids were followers of Zoroastrianism, a monotheistic faith that revered Ahura Mazda as the supreme creator and lord of the universe. They also believed in the existence of other divine beings and forces, such as Anahita, the goddess of fertility and wisdom, and Mithra, the god of the sun and justice. They also had a keen interest in astrology, and the influence of the stars and planets on human affairs.

The celestial symbolism in Achaemenid jewelry can be seen in various motifs, such as:

Sun, Moon, and Stars: These celestial bodies represented the eternal and cyclical nature of the cosmos, and the divine authority of the Achaemenid kings. The sun, often depicted as a disc with rays, symbolized Ahura Mazda, the source of life and light. The moon, usually shown as a crescent, symbolized Anahita, the patroness of women and fertility. The stars, often made from tiny gemstones, symbolized the blessings of the divine order and the influence of the zodiac on human destiny. These motifs often adorned crowns, diadems, earrings, pendants, and bracelets, serving as protective amulets and regal accessories.

Solar Disks and Rosettes: A variation of the sun motif, the solar disk was a circular emblem with a central dot and radiating petals. It was often accompanied by rosettes, intricate floral patterns that could have multiple meanings, such as cosmic order, fertility, or the seasons. The combination of solar disks and rosettes expressed the Achaemenid reverence for the natural world and its harmony with the celestial realm.

Faravahar: One of the most iconic celestial symbols in Achaemenid jewelry, the faravahar was a winged disk with a human figure in the center, usually holding a ring. The faravahar symbolized the sun as the source of royal authority, and the human figure represented the soul or the spirit of the king. The wings symbolized the protection and guidance of the divine forces, and the ring symbolized loyalty and faithfulness. The faravahar was a common motif in gold rings and pendants, emphasizing the connection between the king and Ahura Mazda. (figure7)

Celestial Creatures: The Achaemenids also used mythical animals and hybrid beings as celestial symbols, such as griffins, winged lions, and winged bulls. These creatures were believed to guard the celestial realm and act as messengers and agents of the divine power. They also symbolized the qualities of courage, strength, and nobility. The incorporation of celestial creatures in jewelry served to invoke the divine protection and favor for the wearer.

Zodiacal Imagery: The Achaemenids were fascinated by astrology, and the signs of the zodiac frequently appeared in their jewelry. The zodiacal symbols, such as the bull, the lion, and the ram, were intricately engraved or molded into the designs. They not only represented the alignment of the celestial bodies and their influence on human fate, but also the connection between the Achaemenid rulers and the cosmic forces.

Moon Goddess Representation: The moon was also associated with the feminine aspect of divinity, and some pieces from the Oxus Treasure depict a female figure, possibly a moon goddess, holding celestial symbols. This suggests the interconnectedness of the celestial and divine realms, and the role of the goddess in bestowing fertility and wisdom.



Figure 7- Gold disc clothing appliqué with faravahar; the faravahar was a winged disk with a human figure in the center. Series: Oxus Treasure (The British Museum)

Animal symbolism

One of the striking features of the Oxus Treasure is the use of animal symbolism in the jewelry, which reflects the cultural, religious, and royal aspects of Achaemenid civilization. The Achaemenids were followers of Zoroastrianism, a monotheistic faith that revered Ahura Mazda as the supreme creator and lord of the universe. They also believed in the existence of other divine beings and forces, such as Anahita, the goddess of fertility and wisdom, and Mithra, the god of the sun and justice. They also had a keen interest in astrology, and the influence of the stars and planets on human affairs.

The animal symbolism in Achaemenid jewelry can be seen in various forms, such as:

Lions: Lions were a symbol of power, majesty, and royal authority, and were often depicted as the prey of kings or heroes. The lion was also linked to the sun and the zodiac sign of Leo. The Oxus Treasure contains several pieces that feature lions, such as a gold scabbard with a lion-hunting scene, and a gold pendant with a lion's head surrounded by stars. These pieces would have been worn by high-ranking officials or nobles, and would have conveyed their prowess and divine favor.

Winged Lions: Winged lions were a variation of the lion motif, with added celestial significance. With wings denoting a connection to the heavens, these creatures symbolized not only earthly power but also a celestial realm. The Oxus Treasure features examples of winged lions on earrings and other regal accessories, underlining the celestial authority of the Achaemenid rulers.

Bulls: Bulls were a symbol of fertility, bounty, and lunar cycles, and were associated with the crescent-shaped horns. The Oxus Treasure contains several pieces that feature bulls, such as beads and bracelets with bull horns. These pieces would have invoked the lunar deities and their influence on the natural world.



Figure 8. Hammered gold bowl with low umbo; shallow form; umbo (omphalos) hammered from the outside; embossed from the inside with decoration in two concentric zones, the outer one of which consists of pairs of lions erect upon their hind legs with their forearms outstretched diagonally, and each pair alternating with almond-shaped pushed-out lobes with the points downwards; the small inner zone surrounds the circular depression forming the reverse of the umbo, and is decorated with 6 smaller almond-shaped bosses arranged at regular intervals, again with the points downwards; center point on the underside. Series: Oxus Treasure (The British Museum. Photo by Osama Shukir Muhammed Amin).

Griffins: Griffins were mythical creatures with the body of a lion and the head and wings of an eagle. They were believed to guard the celestial realm and act as messengers and agents of the divine power. They also symbolized the qualities of courage, strength, and nobility. The Oxus Treasure contains several figurines of griffins, some of which have movable heads or wings. These pieces would have symbolized the protection and guidance of the celestial forces. (Figure.7)

Horses: Horses were highly valued by the Achaemenids, who used them for warfare, transportation, and sport. Horses symbolized speed, strength, and nobility. They were also linked to the sun god Mithra, who was often depicted riding a chariot pulled by four horses. The Oxus Treasure contains two gold model chariots with horses and figures, which may represent Mithra or Ahura Mazda. The chariots have four-spoked wheels, which could symbolize the four cardinal directions or the four seasons.

Deer and Ibex: Deer and ibex were symbols of agility and adaptability, and were native to the mountainous regions of the Achaemenid Empire. They reflected the close observation of nature and the livelihoods sustained by terraced farming. The Oxus Treasure contains several rings that feature deer and ibex, which would have been worn by ordinary people or farmers.

Fish: Fish were a symbol of life and fertility, and may also refer to the primordial waters of creation. The Oxus Treasure contains a gold fish vessel, which has a spout in the shape of a ram's head. The ram was associated with the spring equinox and the zodiac sign of Aries, as well as the god Verethragna, who was invoked for victory and prosperity. The vessel may have been used for ritual libations or offerings.



Figure 9- Gold finger-ring with transversely ribbed slender hoop and flat, almost circular, bezel engraved in intaglio with a griffin facing right; back of the bezel is chamfered around the edge. Oxus Treasure (The British Museum).

Plant Symbolism

In the captivating world of Achaemenid Jewelry, plants played a significant role in symbolizing various aspects of nature, religion, and society. The Oxus Treasure, a collection of ancient Persian jewelry, showcases the rich cultural heritage of the Achaemenid Empire through its intricate plant motifs. Each botanical motif, meticulously crafted, unveils a narrative of cultural, religious, and royal expressions dating back to the 5th and 4th centuries BCE. The plant symbolism in Achaemenid jewelry can be seen in various forms, such as:

Lotus: The lotus flower, associated with the goddess Aurora, symbolized creation, rebirth, and resurrection. It also served as a representation of fertility and prosperity.

Rosette: Rosette motifs often featured six petals, symbolizing the six directions and reinforcing concepts of order and balance in the natural and celestial realms.

Vines: Winding around jewelry, vines conveyed perseverance, life-force, and connection to the sustaining earth. Their tendrils knotted into intricate patterns on rings, symbolizing organic networks of power, loyalty, and distribution of blessings.

Pomegranate: A symbol of fertility, abundance, and ritual significance, pomegranates featured prominently on silver vessels and drinking goblets.

Ivy: Representing steadfastness, ivy's clinging capacity when forming earrings and plaques evoked devotion to higher truths and moral codes over time.

Palmette: Characterized by fan-shaped fronds, the palmette symbolized life, vitality, and fertility, adorning artifacts such as necklaces and diadems.

Poppy: Holding symbolic meaning with its four petals, poppy motifs on beads or pendants may have been worn as fertility or healing amulets.

Grapevines: Significant symbols of fruitfulness, abundance, and ritual significance, grapevines' intricate forms adorned silver vessels and drinking goblets.

Leaves: Shaped like ivy, lotus, or acanthus, leaves with inscriptions indicated their use in royal naming or titling systems, denoting concepts of power, lineage, and succession.

Knot and Spiral Motifs: Representing the infinite and cyclic nature of existence, these motifs appeared intertwined with floral forms, reinforcing the blending of spiritual and natural concepts.

Through botanic forms infused with deep symbolism, Achaemenid art revealed nature as a theater for understanding cosmic workings and the nobility's role in preserving bounties granted by celestial providence. The Oxus floral lexicon indexed a rich appreciation for nature's lessons. In conclusion, plant symbols in Achaemenid jewelry reflect the cultural, religious, and royal aspects of Achaemenid civilization, showcasing the rich cultural heritage of the Achaemenid Empire. Each plant motif contributes to an eloquent narrative, weaving together a profound connection to the natural world and the enduring legacy of the Achaemenid people.



Figure 10- Rectangular gold sheet cut-out plaque: shows a figure walking to the left, wearing a crenellated crown or dentate tiara, a long garment with long sleeves decorated with a row of circles, and shoes or boots; the figure has long hair curled over at the back of the neck, and wears a circular earring in the left ear; collar or torc around the neck; right hand held before the face, left hand holding a lotus-flower; five loops for attachment on reverse. Oxus Treasure (The British Museum).

Methods of Jewelry Crafting in Achaemenid Period

The Achaemenid Iranians distinguished themselves through their renowned expertise and ingenuity in crafting jewelry, utilizing precious metals and stones with finesse. Employing an array of sophisticated techniques and tools, they meticulously fashioned intricate and fragile pieces that transcended mere embellishment, acting as nuanced reflections of their cultural identity, religious beliefs, and authoritative prowess. Each artifact, more than a mere adornment, encapsulates tales of unparalleled craftsmanship, cultural opulence, and a profound cosmic connection. The Oxus Treasure stands as an enduring testament to this legacy, inviting contemplation and awe for the artistry of a bygone epoch. A repository of invaluable insights, Achaemenid jewelry serves as a window into the art, culture, and religious tapestry of the expansive Persian Empire, stretching from India to Egypt during its zenith. These artifacts not only showcase the adeptness and diversity of Achaemenid jewelers but also unveil intricate threads connecting them with various regions and traditions.

Description of techniques and tools used in crafting Achaemenid jewelry

crafting of Achaemenid jewelry involved a meticulous blend of skill and innovation, employing various techniques and tools to achieve exquisite results. Metalsmithing, a prominent method, entailed the manipulation of precious metals such as gold, silver, and bronze. Artisans employed casting, forging, and hammering to shape the metals into intricate forms, ensuring both durability and aesthetic appeal.

Gem setting, another integral aspect, involved the careful placement of precious stones within the metal framework. Gemstones like turquoise, carnelian, and lapis lazuli were meticulously cut and polished, with settings ranging from bezel to claw, enhancing both the visual allure and symbolic significance of the jewelry. Filigree work showcased the artisans' dexterity, as they delicately formed intricate patterns and designs using fine metal threads. This technique allowed for the creation of latticework and detailed motifs, contributing to the overall elegance of Achaemenid jewelry. Tools employed in this craftsmanship included various types of hammers, anvils, molds, and chisels, each serving a specific purpose in the creation process. Precise detailing was achieved through the use of engraving tools, enabling the addition of intricate patterns and inscriptions. One of the main techniques used by the Achaemenid jewelers was metalworking, which involved the smithing, hammering, casting, and soldering of gold and silver. They also used alloys, such as electrum (a mixture of gold and silver), to create different colors and effects. The metalworkers employed various tools, such as anvils, hammers, tongs, molds, files, and punches, to shape and decorate the metal. They also used engraving, chasing, repoussé, and inlaying to create pat

Tools and Techniques of Achaemenid Jewelry Masters: Shaping Metal and Gemstone Magic

The dazzling opulence of Achaemenid jewelry wasn't simply a matter of gold and gems. Behind each shimmering piece lay the remarkable skill and ingenuity of the artisans who brought them to life. Their intricate creations, unearthed from the Oxus Treasure and beyond, whisper tales of the tools and techniques used to transform raw materials into breathtaking works of art. Metalworking Marvels: Hammer and Anvil: The foundation of the craft, rounded anvils and stone hammers shaped sheets and wires of gold, silver, and even the naturally occurring electrum alloy. Imagine the rhythmic clanging echoing through workshops as skilled hands wielded these tools.

Chisels and Engravers: Sharp chisels meticulously carved intricate details, bringing life to forms and inscriptions. Fine needles inscribed delicate patterns and symbols onto the metal surface, etching tiny stories onto the jewelry.



Figure 11- Model of gold chariot drawn by four horses abreast: the chariot box or cab is open at the back. It has an irregular square front, wider at the top than the bottom, ornamented with two incised bands in saltire, probably representing diagonal bracing struts. These bands are decorated with triangles and have a Bes head at the intersection. The floor is covered with cross-hatching, most probably representing a flooring of interlaced leather thongs. The two large wheels each have nine spokes, and the running surfaces are studded with small pellets to represent the bulbous heads of large stud-like nails which in the full-size original would have secured a tyre and felloe-sheathing of bronze. The axle is soldered at either end but the wheels originally rotated freely. A seat, in the form of a narrow strip of gold, runs from the front to back of the interior. On this is seated the principal figure. He wears a long robe reaching to the ankles, the sleeves of which appear to be empty like those of the 'kandys'. On his head is a hood or cap, around the front of which is a flat strip of gold, resembling a fillet, with the ends projecting above the forehead, and around his neck is a gold wire torc. The driver wears a similar cap without a fillet, a short girded tunic and a wire torc; his legs are also formed of wires. The two human figures are fixed to the chariot by wires. The chariot is pulled via a pair of draught-poles fixed to four horses under a single four-bay yoke. On the yoke, above each horse, is a large loop, representing the terrets, through which the wire reins pass; alternating with these loops were originally four crescentic fan-shaped yoke ornaments. The bits have large rings at the sides as rein attachments, and each animal has duplicate representations of the neck-strap and backing-element, the former with a pendant tassel, punched into the metal. The horses are small, pony-sized animals, but otherwise have the appearance of ram-headed Nesaeans. Their tails are tied up in mud-knots and the hair of the forelock is pulled back. Only nine legs of the horses survive and the spokes of one wheel are imperfect. The two human figures are fixed to the chariot by wires passing through holes in the bottom and doubled over beneath. In the case of the charioteer these wires are attached to a small plate connecting his feet; in the case of the other figure they are longer, and also pass through the seat. Series: Oxus Treasure (The British Museum. Photo by Osama Shukir Muhammed Amin)

Soldering Iron: This molten "glue" seamlessly joined separate pieces into complex forms, allowing for intricate designs and delicate structures.

Granulation Tools: Tiny gold balls, meticulously crafted using specialized tools, were meticulously applied to adorn surfaces with shimmering texture, resembling stardust.

Gemstone Setting Delicacy: Precious stones, chosen for their vibrant hues and symbolic significance, became integral parts of Achaemenid jewelry. Skilled artisans employed several techniques to secure these treasures:

Bezel Setting: A metal rim encircled the stone, holding it securely while showcasing its beauty. Imagine gemstones like lapis lazuli or turquoise gleaming within these protective bezels.(figure 12)

Prong Setting: Delicate metal claws gently grasped the gem, offering a more open display. This technique allowed light to play on the stone's facets, highlighting its brilliance.

Cloisonné: Thin gold wires outlined the stone's shape, creating intricate compartments filled with colored glass or enamel. Fired to create a dazzling mosaic effect, this technique transformed raw materials into miniature-stained glass windows.



Figure 12- Gold armlet: penannular, the hoop almost solid at the back and tubular towards the ends which are in the form of winged monsters with griffin heads, their hind quarters and legs being in low relief; the horns are chiselled into a series of deep square settings close together, and the ends are cup-shaped; the neck and breast, the outer side of the wings, and the back are ornamented with fine applied cells or cloisons which in the first two instances imitate feathers, and on the back are in the form of broad circumflex accents placed one above the other across a rectangular sunken panel; the face, body and limbs are deeply chased with hollows following the lines of the bodies of the monsters and which, like all the applied cells and chiselled settings, were originally inlaid with colored stones, including lazulite (Bezel Setting), although no trace of these survive; the heads, ears, horns and wings are separately made.

Filigree: Whispers of Wire: Achaemenid jewelers pushed the boundaries of metalworking with the art of filigree. Thin gold wires, almost impossibly fine, were twisted, braided, and soldered into intricate patterns using specialized tools. Leaves, flowers, and mythical creatures came to life through this painstaking technique, adding an ethereal touch to jewelry. Imagine delicate tendrils forming intricate patterns, tiny buds emerging, and mythical creatures taking shape, all crafted from these almost weightless threads of gold (figure 11). These are just a glimpse into the extensive toolkit and techniques employed by Achaemenid jewelers. Each tool, each technique, tells a story of skill, dedication, and artistic vision. Together, they paint a picture of a bygone era where craftsmanship and artistry intertwined to create timeless masterpieces.

Conclusion

Gemstones, Symbols, and Craftsmanship in Achaemenid Jewelry

In Achaemenid culture, gemstones played multifaceted roles beyond mere decoration. They were carefully chosen for their symbolic meanings, embodying profound significance in religious, mythological, and cosmological contexts. The vibrant hues of turquoise, carnelian, and lapis lazuli weren't just aesthetically pleasing; they held spiritual meanings, contributing to the wearer's spiritual well-being and protection.

These precious stones served as representations of spiritual beliefs, with specific stones tied to important religious, mythological, or cosmological concepts. For instance, turquoise symbolized protection, carnelian represented vitality, and lapis lazuli embodied divine favor. The stones weren't just passive adornments; they actively contributed to a visual vocabulary, conveying cultural, religious, and royal significance within the Achaemenid Empire.

Expressions of cultural values were embedded in gemstones, with motifs like lotus blossoms and vines depicted using these precious materials. Lotus blossoms represented creation and rebirth, aligning with beliefs in the afterlife, while vines symbolized abundance and interconnectedness, reflecting the cultural values of community and prosperity.

Beyond their decorative role, gemstones served as tools for storytelling within Achaemenid jewelry. The choice and placement of gemstones within the jewelry often formed intricate narratives, depicting mythology, religious beliefs, or personal achievements. Gemstones became integral elements that added layers of meaning and stories to the crafted pieces.

Expressions of artistic creativity were heightened through the use of gemstones. These stones, selected for their unique colors and textures, weren't just inert materials; they allowed skilled artisans to enhance the overall design and artistry of their creations. The vibrant and visually stunning gemstones became essential components in the intricate process of crafting beautiful and meaningful jewelry.

In summary, the world of Achaemenid jewelry, as epitomized by the treasures within the Oxus Treasure, unveils a captivating narrative of gemstones, symbols, and craftsmanship. The meticulous integration of precious gems like turquoise, carnelian, and lapis lazuli into intricate metal frameworks reflects not only aesthetic brilliance but also the profound symbolic depth embedded in each piece. From celestial symbols to representations of flora and fauna, the jewelry acts as a visual lexicon, conveying cultural, religious, and royal significance.

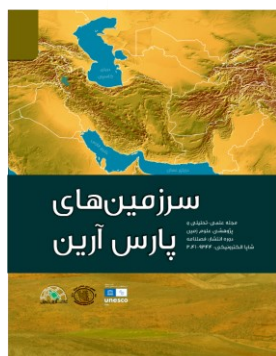
These gemstones in Achaemenid culture transcend mere visual appeal, playing pivotal roles as carriers of symbolic depth, expressions of cultural values, tools for storytelling, and enhancers of artistic creativity. These multifaceted roles showcase the profound connections between gemstones, wearers,

and the rich cultural fabric of the Achaemenid Empire. The vibrant hues and unique properties of gemstones weren't just ornamental; they actively contributed to a visual vocabulary that communicated the empire's cultural, religious, and royal significance. In essence, Achaemenid jewelry becomes a testament to the intricate interplay of gemstones, symbols, and craftsmanship, echoing the stories, beliefs, and artistry of a remarkable civilization across time and space.

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گوهرها و زیورآلات در فرهنگ هخامنشیان با نگاهی به گنجینه آمودریا



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چکیده

در این نوشتار به اهمیت سنگ‌های قیمتی در دوران هخامنشی (قرن ۶ تا ۴ قبل از میلاد) با تمرکز بر گنجینه آمودریا، کشف شده در در تاجیکستان، پرداخته شده است. فراتر از جذابیت زیبایی‌شناختی، سنگ‌های قیمتی در جواهرات هخامنشی به‌طور پیچیده با ابعاد فرهنگی، مذهبی و اجتماعی در هم تنیده شده اند. گنجینه آمودریا، مجموعه‌ای است از دست سازه‌هایی که بیشتر از طلا و نقره ساخته شده‌اند و گواهی بر شکوه و صنعت امپراتوری هخامنشی است. از دستبندهای با نقوش گریفین (موجودی افسانه‌ای با تن شیر و سر عقاب و گوش اسب) گرفته تا انگشترها و گردن آویزها با نقش‌های اهورا مزدا، هر مصنوع نه تنها درخشش هنری را به نمایش می‌گذارد، بلکه ارزش‌ها و باورهای پیچیده‌ای را که جامعه ایران باستان را شکل داده است، در بر می‌گیرد. این تحقیق، تأثیرات جهان وطنی را که در جواهرات هخامنشی نفوذ کرده است، و تأثیر سبک‌هایی از مصر، بین‌النهرین، یونان، هند و لیدیا (بخش‌هایی از ترکیه کنونی) را در هنر آریایی نمایان می‌سازد. امپراتوری هخامنشی که در قلمروهای وسیعی پراکنده شده بود، به عنوان یک چهارراه فرهنگی عمل می‌کرد که در آن تمدن‌های گوناگون به هم نزدیک شدند. ادغام سبک‌های هنری از این مناطق در جواهرات هخامنشی منعکس‌کننده اخلاق جهان وطنی است و نقش امپراتوری را به عنوان یک پیوند فرهنگی برجسته می‌کند. و در این مقاله به طور خلاصه به گوهرهای به کاررفته در دوران هخامنشی، نمادهای استفاده شده، مفاهیم آنها و همچنین روش‌های ساخت جواهرات در آن زمان می‌پردازد.

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